

Please **AMEND** the CLAIMS as follows:

1. (Currently Amended) In a first one of a plurality of Home Agents supporting Mobile IP, a method of processing a registration request from a Mobile Node that has roamed to a Foreign Agent supporting Mobile IP, comprising:

receiving a registration request addressed to a virtual Home Agent address associated with the plurality of Home Agents;

sending the registration request to a second one of the plurality of Home Agents such that the second one of the plurality of Home Agents creates a binding between the Mobile Node and the Foreign Agent;

creating a temporary binding by the first one of the plurality of Home Agents between the Mobile Node and the Foreign Agent;

receiving a registration reply from the second one of the plurality of Home Agents;

updating the temporary binding by the first one of the plurality of Home Agents to create a permanent binding when the registration reply is received from the second one of the plurality of Home Agents; and

sending the registration reply to the Foreign Agent identified in the temporary binding.

2. (Original) The method as recited in claim 1, wherein the temporary binding comprises an identifier associated with the Mobile Node, an IP address associated with the Foreign Agent, and an IP address associated with the second one of the plurality of Home Agents.

3. (Original) The method as recited in claim 1, wherein the permanent binding comprises an identifier associated with the Mobile Node, an IP address associated with the Foreign Agent, an IP address associated with the second one of the plurality of Home Agents, and a registration lifetime.

4. (Original) The method as recited in claim 3, wherein the identifier is an IP address.

5. (Original) The method as recited in claim 4, wherein the permanent binding further comprises an NAI associated with the Mobile Node.

6. (Original) The method as recited in claim 3, further comprising:  
obtaining the registration lifetime from the registration reply received from the second one of the plurality of Home Agents.

7. (Original) The method as recited in claim 1, wherein updating the temporary binding to create a permanent binding comprises:  
specifying a granted registration lifetime obtained from the registration reply received from the second one of the plurality of Home Agents.

8. (Original) The method as recited in claim 7, wherein updating the temporary binding to create a permanent binding comprises:  
specifying an IP address assigned to the Mobile Node by the second one of the

plurality of Home Agents.

9. (Original) The method as recited in claim 1, further comprising:  
obtaining the temporary binding; and  
identifying the Foreign Agent from the temporary binding prior to sending the registration reply to the Foreign Agent.
10. (Original) The method as recited in claim 1, wherein the registration request specifies a destination MAC address equal to a MAC address assigned to the second one of the plurality of Home Agents.
11. (Original) The method as recited in claim 1, wherein the registration reply specifies a destination MAC address equal to a MAC address assigned to the first one of the plurality of Home Agents.
12. (Original) The method as recited in claim 1, wherein the registration request specifies a destination IP address as the virtual Home Agent address.
13. (Original) The method as recited in claim 1, wherein the registration reply specifies a destination IP address as the virtual Home Agent address.
14. (Original) The method as recited in claim 1, wherein the registration request specifies a destination IP address as the virtual Home Agent address and the registration reply specifies a destination IP address as the virtual Home Agent address.

15. (Original) The method as recited in claim 1, further comprising:  
advertising a virtual network associated with the virtual Home Agent address.
16. (Original) The method as recited in claim 15, wherein advertising comprises  
sending a routing table update.
17. (Original) The method as recited in claim 1, further comprising:  
sending at least one of Home Agent health and load information associated with the  
first one of the plurality of Home Agents to one or more of the plurality of Home Agents.
18. (Original) The method as recited in claim 15, further comprising:  
receiving an advertisement from one of the plurality of Home Agents, the  
advertisement advertising the virtual network associated with the virtual Home Agent  
address.
19. (Original) The method as recited in claim 18, wherein receiving an advertisement  
from one of the plurality of Home Agents comprises:  
receiving one or more routing table updates advertising the virtual network associated  
with the virtual Home Agent address.
20. (Original) The method as recited in claim 18, further comprising:  
receiving at least one of Home Agent health and load information associated with the

one of the plurality of Home Agents.

21. (Original) The method as recited in claim 1, further comprising:  
receiving at least one of Home Agent health and load information associated with one  
of the plurality of Home Agents.

22. (Original) The method as recited in claim 21, further comprising:  
determining from the Home Agent health information whether the one of the plurality  
of Home Agents is functioning; and  
when the one of the plurality of Home Agents is not functioning, sending a set of  
Mobile Node bindings to a backup Home Agent associated with the virtual Home Agent  
address and updating one or more bindings such that the one or more bindings are associated  
with the backup Home Agent.

23. (Original) The method as recited in claim 22, wherein updating one or more  
bindings such that the one or more bindings are associated with the backup Home Agent  
comprises:  
associating one or more Mobile Nodes with an IP address of the backup Home Agent.

24. (Original) The method as recited in claim 22, further comprising:  
selecting the backup Home Agent from a plurality of backup Home Agents.

25. (Original) The method as recited in claim 24, further comprising:  
examining load information of the plurality of backup Home Agents prior to selecting  
the backup Home Agent.

26. (Original) The method as recited in claim 1, further comprising:  
sending one or more bindings to one or more backup Home Agents, the one or more  
bindings being associated with one or more of the plurality of Home Agents.

27. (Original) The method as recited in claim 26, wherein sending one or more  
bindings comprises:  
sending one or more temporary bindings and one or more permanent bindings to the  
one or more backup Home Agents.

28. (Original) The method as recited in claim 1, further comprising:  
when the registration request is received, searching for a binding for the Mobile  
Node;  
when a binding for the Mobile Node exists, identifying the second one of the plurality  
of Home Agents in the binding prior to sending the registration request to the second one of  
the plurality of Home Agents; and  
when a binding for the Mobile Node does not exist, selecting the second one of the  
plurality of Home Agents prior to sending the registration request to the second one of the  
plurality of Home Agents.

- 29. (Previously Cancelled)
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- 40. (Previously Cancelled)
- 41. (Previously Cancelled)
- 42. (Previously Cancelled)
- 43. (Previously Cancelled)

44. (Currently Amended) A first one of a plurality of Home Agents supporting Mobile IP, the first one of the plurality of Home Agents being adapted for processing a registration request from a Mobile Node that has roamed to a Foreign Agent supporting Mobile IP, comprising:

means for receiving a registration request addressed to a virtual Home Agent address associated with the plurality of Home Agents;

means for sending the registration request to a second one of the plurality of Home

Agents such that the second one of the plurality of Home Agents creates a binding between the Mobile Node and the Foreign Agent;

means for creating a temporary binding by the first one of the plurality of Home Agents between the Mobile Node and the Foreign Agent;

means for receiving a registration reply from the second one of the plurality of Home Agents;

means for updating the temporary binding by the first one of the plurality of Home Agents to create a permanent binding when the registration reply is received from the second one of the plurality of Home Agents; and

means for sending the registration reply to the Foreign Agent identified in the temporary binding.

45. (Currently Amended) A first one of a plurality of Home Agents supporting Mobile IP, the first one of the plurality of Home Agents being adapted for processing a registration request from a Mobile Node that has roamed to a Foreign Agent supporting Mobile IP, comprising:

a processor; and

a memory, at least one of the processor and the memory being adapted for:

receiving a registration request addressed to a virtual Home Agent address associated with the plurality of Home Agents;

sending the registration request to a second one of the plurality of Home Agents such that the second one of the plurality of Home Agents creates a binding between the Mobile Node and the Foreign Agent;

creating a temporary binding by the first one of the plurality of Home Agents between the Mobile Node and the Foreign Agent;



receiving a registration reply from the second one of the plurality of Home Agents;  
updating the temporary binding by the first one of the plurality of Home Agents to  
create a permanent binding when the registration reply is received from the second one of the  
plurality of Home Agents; and  
sending the registration reply to the Foreign Agent identified in the temporary  
binding.

46. (Currently Amended) A computer-readable medium storing thereon computer-readable instructions for processing a registration request from a Mobile Node that has roamed to a Foreign Agent supporting Mobile IP in a first one of a plurality of Home Agents supporting Mobile IP, comprising:

instructions for receiving a registration request addressed to a virtual Home Agent address associated with the plurality of Home Agents;

instructions for sending the registration request to a second one of the plurality of Home Agents such that the second one of the plurality of Home Agents creates a binding between the Mobile Node and the Foreign Agent;

instructions for creating a temporary binding by the first one of the plurality of Home Agents between the Mobile Node and the Foreign Agent;

instructions for receiving a registration reply from the second one of the plurality of Home Agents;

instructions for updating the temporary binding by the first one of the plurality of Home Agents to create a permanent binding when the registration reply is received from the second one of the plurality of Home Agents; and

instructions for sending the registration reply to the Foreign Agent identified in the temporary binding.

47. (Previously Cancelled)

48. (Previously Cancelled)

49. (Previously Cancelled)

FPlease **ADD** new claims as follows:

50. (New) The first one of a plurality of Home Agents as recited in claim 45, wherein the temporary binding comprises an identifier associated with the Mobile Node, an IP address associated with the Foreign Agent, and an IP address associated with the second one of the plurality of Home Agents.

51. (New) The first one of a plurality of Home Agents as recited in claim 45, wherein the permanent binding comprises an identifier associated with the Mobile Node, an IP address associated with the Foreign Agent, an IP address associated with the second one of the plurality of Home Agents, and a registration lifetime.

52. (New) The first one of a plurality of Home Agents as recited in claim 51, wherein the identifier is an IP address.

53. (New) The first one of a plurality of Home Agents as recited in claim 52, wherein

the permanent binding further comprises an NAI associated with the Mobile Node.

54. (New) The first one of a plurality of Home Agents as recited in claim 51, at least one of the processor and the memory being further adapted for:

obtaining the registration lifetime from the registration reply received from the second one of the plurality of Home Agents.

55. (New) The first one of a plurality of Home Agents as recited in claim 45, wherein updating the temporary binding to create a permanent binding comprises:

specifying a granted registration lifetime obtained from the registration reply received from the second one of the plurality of Home Agents.

56. (New) The first one of a plurality of Home Agents as recited in claim 55, wherein updating the temporary binding to create a permanent binding comprises:

specifying an IP address assigned to the Mobile Node by the second one of the plurality of Home Agents.

57. (New) The first one of a plurality of Home Agents as recited in claim 45, at least one of the processor and the memory being further adapted for:

obtaining the temporary binding; and

identifying the Foreign Agent from the temporary binding prior to sending the registration reply to the Foreign Agent.

58. (New) The first one of a plurality of Home Agents as recited in claim 45, wherein the registration request specifies a destination MAC address equal to a MAC address assigned to

the second one of the plurality of Home Agents.

59. (New) The first one of a plurality of Home Agents as recited in claim 45, wherein the registration reply specifies a destination MAC address equal to a MAC address assigned to the first one of the plurality of Home Agents.

60. (New) The first one of a plurality of Home Agents as recited in claim 45, wherein the registration request specifies a destination IP address as the virtual Home Agent address.

61. (New) The first one of a plurality of Home Agents as recited in claim 45, wherein the registration reply specifies a destination IP address as the virtual Home Agent address.

62. (New) The first one of a plurality of Home Agents as recited in claim 45, wherein the registration request specifies a destination IP address as the virtual Home Agent address and the registration reply specifies a destination IP address as the virtual Home Agent address.

63. (New) The first one of a plurality of Home Agents as recited in claim 45, at least one of the processor and the memory being further adapted for:

advertising a virtual network associated with the virtual Home Agent address.

64. (New) The first one of a plurality of Home Agents as recited in claim 63, wherein advertising comprises sending a routing table update.

65. (New) The first one of a plurality of Home Agents as recited in claim 45, at least one of the processor and the memory being further adapted for:

    sending at least one of Home Agent health and load information associated with the first one of the plurality of Home Agents to one or more of the plurality of Home Agents.

66. (New) The first one of a plurality of Home Agents as recited in claim 63, at least one of the processor and the memory being further adapted for:

    receiving an advertisement from one of the plurality of Home Agents, the advertisement advertising the virtual network associated with the virtual Home Agent address.

67. (New) The first one of a plurality of Home Agents as recited in claim 66, wherein receiving an advertisement from one of the plurality of Home Agents comprises:

    receiving one or more routing table updates advertising the virtual network associated with the virtual Home Agent address.

68. (New) The first one of a plurality of Home Agents as recited in claim 66, at least one of the processor and the memory being further adapted for:

    receiving at least one of Home Agent health and load information associated with the one of the plurality of Home Agents.

69. (New) The first one of a plurality of Home Agents as recited in claim 45, at least one of the processor and the memory being further adapted for:

receiving at least one of Home Agent health and load information associated with one of the plurality of Home Agents.

70. (New) The first one of a plurality of Home Agents as recited in claim 69, at least one of the processor and the memory being further adapted for:

determining from the Home Agent health information whether the one of the plurality of Home Agents is functioning; and

when the one of the plurality of Home Agents is not functioning, sending a set of Mobile Node bindings to a backup Home Agent associated with the virtual Home Agent address and updating one or more bindings such that the one or more bindings are associated with the backup Home Agent.

71. (New) The first one of a plurality of Home Agents as recited in claim 70, wherein updating one or more bindings such that the one or more bindings are associated with the backup Home Agent comprises:

associating one or more Mobile Nodes with an IP address of the backup Home Agent.

72. (New) The first one of a plurality of Home Agent as recited in claim 70, at least one of the processor and the memory being further adapted for:

selecting the backup Home Agent from a plurality of backup Home Agents.

73. (New) The first one of a plurality of Home Agents as recited in claim 72, at least one of the processor and the memory being further adapted for:

examining load information of the plurality of backup Home Agents prior to selecting the backup Home Agent.

74. (New) The first one of a plurality of Home Agents as recited in claim 45, at least one of the processor and the memory being further adapted for:

sending one or more bindings to one or more backup Home Agents, the one or more bindings being associated with one or more of the plurality of Home Agents.

75. (New) The first one of a plurality of Home Agents as recited in claim 74, wherein sending one or more bindings comprises:

sending one or more temporary bindings and one or more permanent bindings to the one or more backup Home Agents.

76. (New) The first one of a plurality of Home Agents as recited in claim 45, at least one of the processor and the memory being further adapted for:

when the registration request is received, searching for a binding for the Mobile Node;

when a binding for the Mobile Node exists, identifying the second one of the plurality of Home Agents in the binding prior to sending the registration request to the second one of

the plurality of Home Agents; and

when a binding for the Mobile Node does not exist, selecting the second one of the plurality of Home Agents prior to sending the registration request to the second one of the plurality of Home Agents.